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- 1 [The when, why and why not of the BETA programming language](#)  
 Bent Bruun Kristensen, Ole Lehrmann Madsen, Birger Møller-Pedersen  
 June 2007 **HOPL III: Proceedings of the third ACM SIGPLAN conferen**  
**Publisher:** ACM [Request Permissions](#)  
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**Bibliometrics:** Downloads (6 Weeks): 27, Downloads (12 Months): 315, Downl

This paper tells the story of the development of BETA: a programming l  
 abstraction mechanism for each kind of program element (classes, type

**Keywords:** history of programming, object-oriented analysis, object-or  
 programming, programming languages

- 2 [TraceBack: first fault diagnosis by reconstruction of distributed contri](#)  
 Andrew Ayers, Richard Schooler, Chris Metcalf, Anant Agarwal, Junghwan I  
 June 2005 **PLDI '05: Proceedings of the 2005 ACM SIGPLAN conferen**  
**Publisher:** ACM [Request Permissions](#)  
 Full text available: [Pdf](#) (347.77 KB) Additional Information: [full citati](#)  
**Bibliometrics:** Downloads (6 Weeks): 7, Downloads (12 Months): 55, Downloa

Faults that occur in production systems are the most important faults to  
 present in development environments. TraceBack provides debugging ir

**Keywords:** fault diagnosis, instrumentation




Also published in:

June 2005 **SIGPLAN Notices** Volume 40 Issue 6

- 3 [Bitfrost: the one laptop per child security model](#)  
 Ivan Krstić, Simson L. Garfinkel  
 July 2007 **SOUPS '07: Proceedings of the 3rd symposium on Usable p**  
**Publisher:** ACM  
 Full text available: [Pdf](#) (500.47 KB) Additional Information: [full citati](#)  
**Bibliometrics:** Downloads (6 Weeks): 8, Downloads (12 Months): 130, Downlo




We present an integrated security model for a low-cost laptop that will l  
 Implemented on top of Linux operating system, the model is designed t

**Keywords:** Bitfrost, Linux, usability

-  [Improving the reliability of commodity operating systems](#)  
 Michael M. Swift, Brian N. Bershad, Henry M. Levy  
 February 2005 **Transactions on Computer Systems (TOCS)** , Volume 23 I  
**Publisher:** ACM  [Request Permissions](#)  
 Full text available:  Pdf (459.98 KB) Additional Information: [full citation](#)  
**Bibliometrics:** Downloads (6 Weeks): 44, Downloads (12 Months): 400, Downloads (24 Months): 100

Despite decades of research in extensible operating system technology, system failures. In Windows XP, for example, drivers account for 85&pe

**Keywords:** I/O, Recovery, device drivers, protection, virtual memory






- 5 [Improving the reliability of commodity operating systems](#)  
 Michael M. Swift, Brian N. Bershad, Henry M. Levy  
 December 2003 **SOSP '03: Proceedings of the nineteenth ACM symposium**  
**Publisher:** ACM  [Request Permissions](#)  
 Full text available:  Pdf (262.78 KB) Additional Information: [full citation](#)  
**Bibliometrics:** Downloads (6 Weeks): 27, Downloads (12 Months): 384, Downloads (24 Months): 100

Despite decades of research in extensible operating system technology, system failures. In Windows XP, for example, drivers account for 85% c

**Keywords:** I/O, device drivers, protection, recovery, virtual memory

Also published in:

December 2003 **SIGOPS Operating Systems Review** Volume 37 Issue 5




- 6 [TxLinux: using and managing hardware transactional memory in an i](#)  
 Christopher J. Rossbach, Owen S. Hofmann, Donald E. Porter, Hany E. Ran  
 October 2007 **SOSP '07: Proceedings of twenty-first ACM SIGOPS symposium**  
**Publisher:** ACM  [Request Permissions](#)  
 Full text available:  Flv (31:17 MIN),  Mp3 (13.15 MB),  Pdf (324.16 KB) Additional Information: [full citation](#)  
**Bibliometrics:** Downloads (6 Weeks): 18, Downloads (12 Months): 213, Downloads (24 Months): 100

TxLinux is a variant of Linux that is the first operating system to use hardware transactional memory primitive, and the first to manage HTM in the scheduler. This paper describes

**Keywords:** MetaTM, TxLinux, operating systems, optimistic concurrency

Also published in:


October 2007 **SIGOPS Operating Systems Review** Volume 41 Issue 6

- 7 [Helios: heterogeneous multiprocessing with satellite kernels](#)  
 Edmund B. Nightingale, Orion Hodson, Ross McIlroy, Chris Hawblitzel, Gale  
 October 2009 **SOSP '09: Proceedings of the ACM SIGOPS 22nd symposium**  
**Publisher:** ACM  [Request Permissions](#)  
 Full text available:  Pdf (474.21 KB) Additional Information: [full citation](#)  
**Bibliometrics:** Downloads (6 Weeks): 37, Downloads (12 Months): 103, Downloads (24 Months): 100

Helios is an operating system designed to simplify the task of writing, debugging, and testing. Helios introduces satellite kernels, which export a single, uniform set of

**Keywords:** heterogeneous computing, operating systems

## 8 [The KaffeOS Java runtime system](#)

 Godmar Back, Wilson C. Hsieh

July 2005

**Transactions on Programming Languages and System**

**Publisher:** ACM  [Request Permissions](#)

Full text available:  Pdf (704.30 KB)


Additional Information: [full citation](#)

**Bibliometrics:** Downloads (6 Weeks): 18, Downloads (12 Months): 139, Download

Single-language runtime systems, in the form of Java virtual machines, code. These runtimes provide some of the features that operating systems

**Keywords:** Robustness, garbage collection, isolation, language runtime

## 9 [Portably solving file races with hardness amplification](#)

 Dan Tsafir, Tomer Hertz, David Wagner, Dilma Da Silva

November 2008 **Transactions on Storage (TOS)**, Volume 4 Issue 3

**Publisher:** ACM  [Request Permissions](#)

Full text available:  Pdf (985.12 KB)


Additional Information: [full citation](#)

**Bibliometrics:** Downloads (6 Weeks): 7, Downloads (12 Months): 80, Download

The file-system API of contemporary systems makes programs vulnerable. Existing solutions either help users to detect these problems (by pinpoints)

**Keywords:** Race conditions, TOCTTOU, time-of-check-to-time-of-use


## 10 [XMem: type-safe, transparent, shared memory for cross-runtime communication](#)

 Michal Wegiel, Chandra Krintz

June 2008

**PLDI '08: Proceedings of the 2008 ACM SIGPLAN conference**

**Publisher:** ACM  [Request Permissions](#)

Full text available:  Pdf (254.76 KB)

Additional Information: [full citation](#)

**Bibliometrics:** Downloads (6 Weeks): 13, Downloads (12 Months): 110, Download


Developers commonly build contemporary enterprise applications using architectures that comprise multiple tiers, such as a web container, application servers, and databases. These architectures are increasingly becoming more complex and harder to manage.

**Keywords:** class loading, garbage collection, interprocess communication, synchronization, transparent, type-safe

Also published in:

May 2008 **SIGPLAN Notices** Volume 43 Issue 6

## 11 [Fast and flexible application-level networking on exokernel systems](#)

 Gregory R. Ganger, Dawson R. Engler, M. Frans Kaashoek, Hector M. Brice

February 2002

**Transactions on Computer Systems (TOCS)**, Volume 20 Issue 1

**Publisher:** ACM  [Request Permissions](#)


Full text available:  Pdf (500.67 KB)

Additional Information: [full citation](#)

**Bibliometrics:** Downloads (6 Weeks): 11, Downloads (12 Months): 68, Download

Application-level networking is a promising software organization for im services. The Xok/ExOS exokernel system includes application-level sup

**Keywords:** Extensible systems, OS structure, fast servers, network ser

- 12 [Specialization tools and techniques for systematic optimization of sy](#)  
 [Dylan McNamee, Jonathan Walpole, Calton Pu, Crispin Cowan, Charles Kra](#)  
[Renauld Marlet](#)

May 2001

**Transactions on Computer Systems (TOCS)**, Volume 19 I

**Publisher:** ACM  [Request Permissions](#)


Full text available:  [Pdf](#) (178.52 KB)

Additional Information: [full citati](#)

**Bibliometrics:** Downloads (6 Weeks): 8, Downloads (12 Months): 73, Downloa

Specialization has been recognized as a powerful technique for optimizir broadly applied beyond the research community because current techni

**Keywords:** operating system specialization, optimization, software arcl

- 13 [A quantitative analysis of aspects in the eCos kernel](#)  
 [Daniel Lohmann, Fabian Schefer, Reinhard Tartler, Olaf Spinczyk, Wolfgang](#)  
[April 2006](#) **EuroSys '06: Proceedings of the 1st ACM SIGOPS/EuroSys**

**Publisher:** ACM

Full text available:  [Pdf](#) (661.89 KB)

Additional Information: [full citati](#)

**Bibliometrics:** Downloads (6 Weeks): 11, Downloads (12 Months): 70, Downlo

Nearly ten years after its first presentation and five years after its first : *Oriented Programming (AOP)* for the development of operating system

**Keywords:** Aspect-Oriented Programming (AOP), AspectC++, Footprin

Also published in:

October 2006 **SIGOPS Operating Systems Review** Volume 40 Issue 4

- 14 [Secure virtual enclaves: Supporting coalition use of distributed applic](#)  
 May 2001 **Transactions on Information and System Security (TI**

**Publisher:** ACM  [Request Permissions](#)

Full text available:  [Pdf](#) (462.10 KB)

Additional Information: [full citati](#)


**Bibliometrics:** Downloads (6 Weeks): 10, Downloads (12 Months): 85, Downlo

The Secure Virtual Enclaves (SVE) collaboration infrastructure allows mi objects, while respecting organizational autonomy over local resources.

**Keywords:** Access control, coalition, collaborative system, group comm

- 15 [CarTel: a distributed mobile sensor computing system](#)  
 [Bret Hull, Vladimir Bychkovsky, Yang Zhang, Kevin Chen, Michel Goraczko,](#)  
[October 2006](#) **SenSys '06: Proceedings of the 4th international conferenc**

**Publisher:** ACM  [Request Permissions](#)

Full text available:  [Pdf](#) (2.04 MB)

Additional Information: [full citati](#)

**Bibliometrics:** Downloads (6 Weeks): 44, Downloads (12 Months): 326, Downl

*CarTel* is a mobile sensor computing system designed to collect, process units such as automobiles. A CarTel node is a mobile embedded computer

**Keywords:** data management, data visualization, implementation, internet networks

## 16 [A survey of linguistic structures for application-level fault tolerance](#)

 Vincenzo De Florio, Chris Blondia  
April 2008 **Computing Surveys (CSUR)**, Volume 40 Issue 2

**Publisher:** ACM  [Request Permissions](#)

Full text available:  Pdf (2.23 MB)

Additional Information: [full citation](#)

**Bibliometrics:** Downloads (6 Weeks): 51, Downloads (12 Months): 438, Downloads

Structures for the expression of fault-tolerance provisions in application techniques answer questions as to how to incorporate fault tolerance in

**Keywords:** Language support for software-implemented fault tolerance concerns, software fault tolerance

## 17 [Coyote: a system for constructing fine-grain configurable communication](#)

 Nina T. Bhatti, Matti A. Hiltunen, Richard D. Schlichting, Wanda Chiu  
November 1998 **Transactions on Computer Systems (TOCS)**, Volume 16 Issue 4

**Publisher:** ACM  [Request Permissions](#)

Full text available:  Pdf (290.21 KB)


Additional Information: [full citation](#)

**Bibliometrics:** Downloads (6 Weeks): 4, Downloads (12 Months): 42, Downloads


Communication-oriented abstractions such as atomic multicast, group R can simplify the development of complex applications built on distributed

**Keywords:** x-kernal, configurable services, customization, event handling mobile computing, modularity, multicast, protocols, remote procedure call

## 18 [Rootkit-resistant disks](#)

 Kevin R.B. Butler, Stephen McLaughlin, Patrick D. McDaniel  
October 2008 **CCS '08: Proceedings of the 15th ACM conference on Computer and Communications Security**

**Publisher:** ACM  [Request Permissions](#)

Full text available:  Pdf (933.90 KB)


Additional Information: [full citation](#)

**Bibliometrics:** Downloads (6 Weeks): 22, Downloads (12 Months): 342, Downloads



Rootkits are now prevalent in the wild. Users affected by rootkits are susceptible unknowingly. Such malware becomes even more dangerous when it is persistent

**Keywords:** labels, rootkits, security, storage

## 19 [Queue: Volume 6 Issue 2](#)

 March 2008 **Queue**

**Publisher:** ACM

Full text available:  Digital Edition,  Pdf (7.96 MB) Additional Information: [full citation](#)

**Bibliometrics:** Downloads (6 Weeks): 56, Downloads (12 Months): 208, Downloads

## 20

[IRIS performer: a high performance multiprocessing toolkit for real-time](#)



John Rohlfs, James Helman

July 1994

**SIGGRAPH '94:** Proceedings of the 21st annual conference**Publisher:** ACM[Request Permissions](#)

Full text available:

[Pdf](#) (628.17 KB),[Ps](#) (9.32 MB)Additional Information: [full citation](#)**Bibliometrics:** Downloads (6 Weeks): 12, Downloads (12 Months): 85, Downloads (All Time): 1,234

This paper describes the design and implementation of IRIS Performer, a real-time 3D graphics applications. The principal design goal is to allow applications to be written in a high-level, declarative language, and to be executed on a wide range of hardware platforms.

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